



Van Allen Probes Spacecraft Status

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Van Allen Probes Summary

- Both observatories continue to operate nominally
- Spacecraft, ground system, and instruments are continually monitored and anomalies are tracked with trending reviews held every 6 months
 - Previous review on April 26, 2017 indicated no new concerns
 - Next review to be held mid-November 2017

- **Trending highlights**

- Requirement of 5.9Gb average daily return for the year

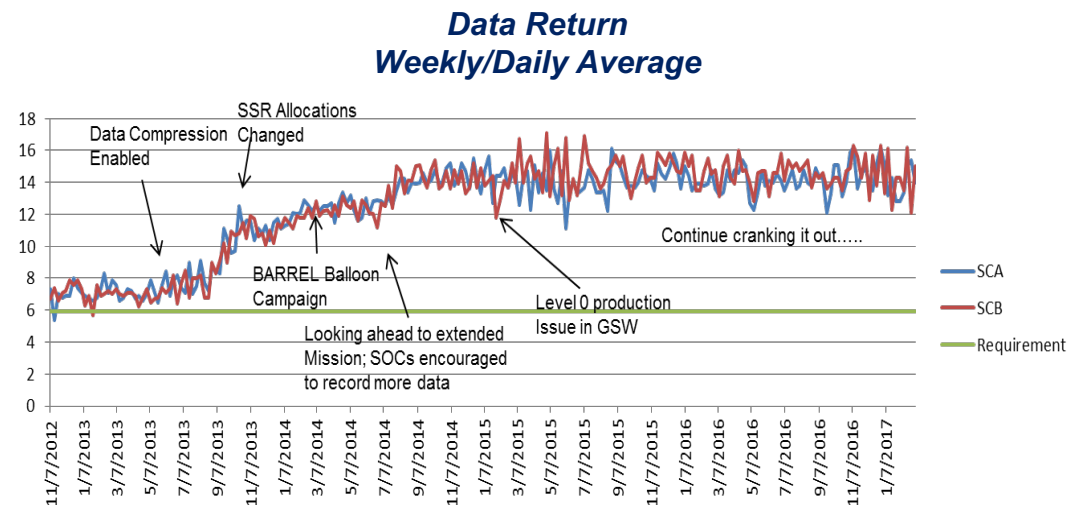
- SCA: 14.2Gbits

- SCB: 14.5Gbits

- Trending continues to indicate propellant is the limiting life item

- EOL power analysis shows sufficient power through Nov. 2020

- Radiation analysis on worst case part predicts total dose of 20krad in Feb. 2022



End of Mission Plan Summary

		RBSP A	RBSP B
Deorbit Start Date		14 March 2019	15 February 2019
Deorbit End Date		26 March 2019	28 February 2019
# Maneuvers		11	12
Predicted Propellant after Deorbit Burns (kg)		0.46	2.25
Propellant Uncertainty (kg)		1.4	1.4
Number of Remaining Precession Maneuvers		1 – 4.6	5.6 – 8
Mission End Date	Worst Case	16 April 2019	20 June 2019
	Best Case	25 June 2019	22 August 2019

Spacecraft Predicted Life – August 2017	SCA	SCB
Remaining useable propellant	25.70 ± 1.11	26.78 ± 1.08
Holdout for disposal (kg)	14.78	15.18
Available for extended mission (kg)*	10.92	11.96
Avg. prop usage per maneuver (kg)**	0.356	0.275
Nominal remaining SC life from August 2017 (years)***	1.61	2.29
Uncertainty in predicted life estimate (+/-years)	0.21	0.27
Estimated nominal EOM	March-19	December-19

* Based on 20.9 yr, 2-burn disposal maneuver; passivation waiver required
 ** Average propellant usage per maneuver between 2016 and 2018.
 *** Assumes 19 E-W precession maneuvers per year.



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